Evolution Notes

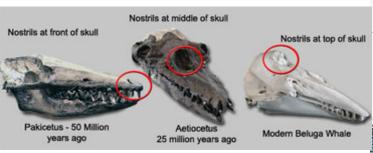
<u>Evolution</u> = Change in species over time

Mechanisms for Evolution:

- Mutation
- Migration
- Genetic Drift (random chance)
- Natural Selection

- **Evidence for Evolution (FAME):**
 - 1. Fossils
 - 2. Anatomy
 - 3. Molecules
 - 4. Embryos

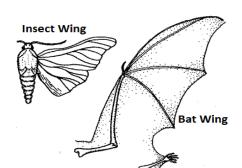
1. <u>Fossils:</u> Fossils change a little bit in each rock layer - oldest fossils are deeper.

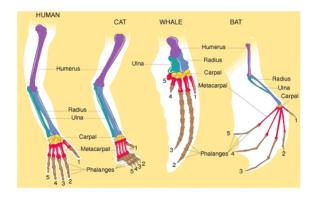


MIOCENE OLIGOCENE EOCENE PALEOCENE 65.5 CRETACEOUS JURASSIC TRIASSIC PERMIAN PENNSYLVANIAN 318 MISSISSIPPIAN DEVONIAN: SILURIAN ORDOVICIAN 488.3 CAMBRIAN PROTEROZOTC ARCHEAN EARTH FORMS 4.6 BILLION YEARS AGO

2. <u>Anatomy</u>: Structures in different organisms are compared to find relationships.

- Homologous Structures = Similar body parts in different organisms
- Analogous Structures=Parts in different organisms that have the same function





 <u>Vestigial Structures</u>=A part of an organism that has lost its function over time



3. Molecules: Different species have similar DNA.

Species	Sequence of Amino Acids in the Same Part of the Hemoglobin Molecules	
Human	Lys-Glu-His-Iso	
Horse	Arg-Lys-His-Lys	
Gorilla	Lys-Glu-His-Lys	
Chimpanzee	Lys-Glu-His-Iso	
Zebra	Arg-Lys-His-Arg	

Compare	# differences
Horse and zebra	1
Horse and gorilla	2
Horse and chimpanzee	3
Human and chimpanzee	0
Human and gorilla	1

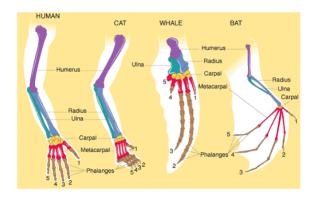
4. Embryos: The embryos of different species have similarities.



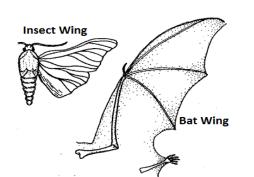
Other Observations:

- Galapagos finches,
- antibiotic-resistant bacteria,
- shampoo-resistant lice

Name:	Evolution Notes	Date:
Evolution =		
Mechanisms for Evolution:	Evidence for Evol	ution (FAME):
 (random char	1. F 2. A 3. M 4. E	_
Nostrils at middle of skull Nostrils at front of skull Pakicetus - 50 Million years ago Aetiocetus 25 million years ago	Nostrils at top of skull Nostrils at top of skull Modern Beluga Whale	PENNSTLVANIAN 318 O MISSISSIPPIAN 359.2 DEVONIAN 416
Anatomy: Homologous Structures =		ROTEROZOT STATE AND



• Analogous Structures=



<u>Vestigial</u>

Structures=

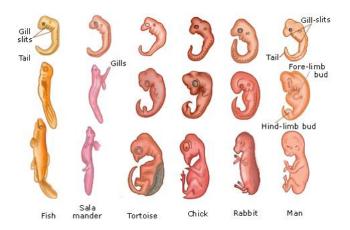


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1. Embryos:	
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Other Observations:

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Find the information to fill in these notes in the "Mechanisms for Evolution" and "Evidence for Evolution" pages in the "Micro-Life" Unit page of the class website at stevens.portangelesschools.org/science8